# WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Monday, May 24, 2004

| Hide? | Set Name | Query | Hit Count |
|---|---|---|---|
| | | *DB=PGPB,USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=OR* | |
| ☐ | L8 | L7 and ((streptococc$5 or S adj (parauberis or $4galact$5)).clm. or (streptococc$5 or S adj (parauberis or $4galact$5)) .ab.) | 16 |
| ☐ | L7 | L6 and (streptococc$5 or S adj (parauberis or $4galact$5)) same (Plr or plasmin or fibrin$8 or Gapc or (surface or Glyceraldehyde-3-phosphate) adj dehydrogenase or GAPDH) | 96 |
| ☐ | L6 | l5 not l3 | 166 |
| ☐ | L5 | l4 and (streptococc$5 or S adj (parauberis or $4galact$5)) same (vaccine or antigen$4 or immungen$$) | 194 |
| ☐ | L4 | (streptococc$5 or S adj (parauberis or $4galact$5)) and (vaccine or antigen$4 or immungen$$) same (Plr or plasmin or fibrin$8 or Gapc or (surface or Glyceraldehyde-3-phosphate) adj dehydrogenase or GAPDH) | 392 |
| ☐ | L3 | L2 and (vaccine or fusion or antigen or epitope) | 57 |
| ☐ | L2 | (streptococc$5 or S adj (parauberis or $4galact$5)) same (Gapc or (surface or Glyceraldehyde-3-phosphate) adj dehydrogenase or GAPDH) | 58 |
| ☐ | L1 | (streptococc$5 or mastidis) and (Gapc or (surface or Glyceraldehyde-3-phosphate) adj dehydrogenase or GAPDH) | 540 |

END OF SEARCH HISTORY

# STN Search History

FILE 'HOME' ENTERED AT 12:53:08 ON 24 MAY 2004

L1 954 (STREPTOCOCC#####) AND (PLR OR PLASMIN OR GAPC OR (SURFACE OR GLYCERALDEHYDE-3-PHOSPHATE) (A) DEHYDROGENASE OR GAPDH)

L4 0 L2 AND (STREPTOCOCC#####) (S) (VACCINE OR ANTIGEN OR IMMUN! OR PLR OR PLASMIN OR GAPC OR (SURFACE OR GLYCERALDEHYDE-3-PHOSPHATE ) (A) DEHYDROGENASE OR GAPDH)

L5 0 L2 AND (STREPTOCOCC#####) (P) (VACCINE OR ANTIGEN OR IMMUN! OR PLR OR PLASMIN OR GAPC OR (SURFACE OR GLYCERALDEHYDE-3-PHOSPHATE ) (A) DEHYDROGENASE OR GAPDH)

L6 427 L3 AND (STREPTOCOCC#####) (S) (VACCINE OR ANTIGEN OR IMMUN! OR PLR OR PLASMIN OR GAPC OR (SURFACE OR GLYCERALDEHYDE-3-PHOSPHATE ) (A) DEHYDROGENASE OR GAPDH)

L7 40 L6 AND (STREPTOCOCC#####) (S) (VACCINE OR ANTIGEN OR IMMUN!) AND (PLR OR PLASMIN OR GAPC OR (SURFACE OR GLYCERALDEHYDE-3-PHOS PHATE) (A) DEHYDROGENASE OR GAPDH)

L9 54 L6 AND STREPTOCOCC! (S) (PLR OR GAPC OR (SURFACE OR GLYCERALDEH YDE-3-PHOSPHATE) (A) DEHYDROGENASE OR GAPDH)

L12 6 L6 AND (STREPTOCOCC!) (S) (VACCINE OR ANTIGEN OR IMMUN!) (S) (PLR OR GAPC OR (SURFACE OR GLYCERALDEHYDE-3-PHOSPHATE) (A) DEHYDROGENASE OR GAPDH)

=> d his

(FILE 'HOME' ENTERED AT 12:53:08 ON 24 MAY 2004)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH' ENTERED AT 12:53:29 ON 24 MAY 2004

L1 954 S (STREPTOCOCC#####) AND (PLR OR PLASMIN OR GAPC OR (SURFACE OR
L2 0 S L1 AND @PY<2001
L3 696 S L1 AND PY<2001
L4 0 S L2 AND (STREPTOCOCC#####) (S) (VACCINE OR ANTIGEN OR IMMUN!
L5 0 S L2 AND (STREPTOCOCC#####) (P) (VACCINE OR ANTIGEN OR IMMUN!
L6 427 S L3 AND (STREPTOCOCC#####) (S) (VACCINE OR ANTIGEN OR IMMUN!
L7 40 S L6 AND (STREPTOCOCC#####) (S) (VACCINE OR ANTIGEN OR IMMUN!)
L8 26 DUP REM L7 (14 DUPLICATES REMOVED)
L9 54 S L6 AND STREPTOCOCC! (S) (PLR OR GAPC OR (SURFACE OR GLYCERAL
L10 48 S L9 NOT L7
L11 14 DUP REM L10 (34 DUPLICATES REMOVED)
L12 6 S L6 AND (STREPTOCOCC!) (S) (VACCINE OR ANTIGEN OR IMMUN!) (S)
L13 4 S L12 NOT (L11 OR L8)

L8 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:441815 CAPLUS
DN 133:84229
TI Outer surface proteins, their genes, and their use
IN Hughes, Martin John Glenton; Santangelo, Joseph David; Lane, Jonathan Douglas; Feldman, Robert; Moore, Joanne Christine; Everest, Paul; Dobson, Richard James; Henwood, Caroline Joanne; Dougan, Gordon; Wilson, Rebecca Kerry
PA Microscience Limited, UK
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
|---|---|---|---|---|---|---|
| PI | WO 2000037490 | A2 | 20000629 | WO 1999-GB4376 | 19991222 | <-- |
| | WO 2000037490 | A3 | 20010920 | | | |
| | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | | |
| | EP 1140994 | A1 | 20011010 | EP 1999-962421 | 19991222 | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | | |
| | BR 9916473 | A | 20020115 | BR 1999-16473 | 19991222 | |
| | JP 2002533065 | T2 | 20021008 | JP 2000-589559 | 19991222 | |
| | AU 758722 | B2 | 20030327 | AU 2000-18779 | 19991222 | |
| | NZ 512296 | A | 20030829 | NZ 1999-512296 | 19991222 | |
| | ZA 2001004819 | A | 20020613 | ZA 2001-4819 | 20010613 | |
| | NO 2001003101 | A | 20010813 | NO 2001-3101 | 20010621 | |
| PRAI | GB 1998-28346 | A | 19981222 | | | |
| | GB 1999-1233 | A | 19990120 | | | |
| | GB 1999-1234 | A | 19990120 | | | |
| | GB 1999-8321 | A | 19990412 | | | |
| | GB 1999-12036 | A | 19990524 | | | |
| | GB 1999-22596 | A | 19990923 | | | |
| | WO 1999-GB4376 | W | 19991222 | | | |

AB According to the present invention, a series of genes are identified in Group B **Streptococcus**, the products of which may be located on the outer surface of the organism. The genes, or functional fragments thereof, may be useful in the preparation of therapeutics, e.g. vaccines for the immunization of a patient against microbial infection.

L8 ANSWER 8 OF 26 MEDLINE on STN DUPLICATE 3
AN 2000278281 MEDLINE
DN PubMed ID: 10816380
TI The potential role for nephritis-associated **plasmin** receptor in acute poststreptococcal glomerulonephritis.
AU Yamakami K; Yoshizawa N; Wakabayashi K; Takeuchi A; Tadakuma T; Boyle M D
CS Department of Public Health, National Defense Medical College, Tokorozawa, Saitama, Japan.
NC AI43474 (NIAID)
SO Methods (San Diego, Calif.), **(2000 Jun)** 21 (2) 185-97.

Journal code: 9426302. ISSN: 1046-2023.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200007
ED Entered STN: 20000810
Last Updated on STN: 20000810
Entered Medline: 20000724
AB Immunoglobulin G from a patient convalescing from acute poststreptococcal glomerulonephritis (APSGN) bound specific antigenic sites in early APSGN glomeruli. A **streptococcal** cytoplasmic **antigen** (preabsorbing **antigen**, PA-Ag), could selectively preabsorb fluorescein isothiocyanate (FITC)-labeled IgG and prevented glomerular staining. The antigen was purified and identified as an M(r) approximately 43,000 protein with a pI of 4.7 that strongly activated complement C3 (N. Yoshizawa, S. Oshima, I. Sagel, J. Shimizu, and G. Treser, 1992, J. Immunol. 148, 3110-3116). In the present study, a nephritogenic antigen was purified by affinity chromatography using APSGN IgG-immobilized Sepharose followed by chromatography on an anion-exchange resin. Purification was monitored by ELISA and Western blotting using the binding characteristics of the specific antibodies present in APSGN serum. The molecular weight of the purified **antigen**, named nephritis-associated **plasmin** receptor (NAPlr), was an M(r) approximately 43,000 protein and the internal amino acid sequence was found to be homologous to those of the **plasmin** receptor ( **Plr**) of group A **streptococci** strain 64/14 and **glyceraldehyde-3-phosphate dehydrogenase** (**GAPDH**) from Bacillus subtilis. The purified NAPlr exhibited **GAPDH** activity and **plasmin** (ogen) binding activity. Using FITC-labeled rabbit anti-NAPlr, the antigen was found to be present in the glomeruli of 22 of 22 patients in the early stage of APSGN. Bacterial **Plr** was also demonstrated in human APSGN glomeruli for the first time using monoclonal antibody to the recombinant **Plr** protein. Antibody to NAPlr was found in the sera of 46 of 50 (92%) patients within 3 months of onset. These results led us to speculate that NAPlr bound to the glomeruli may contribute to the pathogenesis of APSGN via **plasmin** and complement activation. 

L8 ANSWER 13 OF 26 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1998:112532 BIOSIS
DN PREV199800112532
TI **Antigen**-specific IgA and IgG against two major surface proteins of group A **streptococci** decrease adherence and internalization of human pharyngeal cells.
AU Fluckiger, U. [Reprint author]; Fischetti, V. A.
CS Univ. Hosp. Basel, Div. Infect. Dis., Petersgraben 4, CH-4031 Basel, Switzerland
SO Abstracts of the Interscience Conference on Antimicrobial Agents and Chemotherapy, (1997) Vol. 37, pp. 36. print.
Meeting Info.: 37th Interscience Conference on Antimicrobial Agents and Chemotherapy. Toronto, Ontario, Canada. September 28-October 1, 1997. ICAAC.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Slide)
LA English
ED Entered STN: 3 Mar 1998
Last Updated on STN: 3 Mar 1998

L8 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:536220 CAPLUS
DN 125:193021
TI Monoclonal antibodies that recognize a common pneumococcal protein with similarities to **streptococcal** group A surface **glyceraldehyde-3-phosphate dehydrogenase**
AU Kolberg, Jan; Sletten, Knut
CS Dep. of Vaccinology, Univ. of Oslo, Oslo, Norway
SO Infection and Immunity (**1996**), 64(9), 3544-3547
CODEN: INFIBR; ISSN: 0019-9567
PB American Society for Microbiology
DT Journal
LA English
AB Monoclonal antibodies (MAbs) against clin. isolates of **Streptococcus** pneumoniae were produced in a search for common pneumococcal proteins. One of the fusions generated two MAbs, 174,B-8 (IgG2a) and 177,D-8 (IgG1), which by Western blotting (immunoblotting) stained with a main band of 40 kDa found in all isolates of S. pneumoniae examined Cross-reactivity studies with **streptococci** other than pneumococci revealed very weak or moderate reactions with the MAbs. The 40-kDa protein was isolated by immunoaffinity chromatog. and subsequent preparative Western blotting. N-terminal amino acid sequencing showed 90% amino acid sequence homol. with a surface-located **glyceraldehyde -3-phosphate dehydrogenase** from **Streptococcus** pyogenes. This protein has also been reported to exhibit binding to mammalian proteins such as fibronectin, which may serve as host receptors. The epitopes for MAbs 174,B-8 and 177,D-8 reacting with the pneumococcal analog were not accessible to antibody binding in live bacteria but were exposed after heat killing. The MAbs showed negligible cross-reactions with S. pyogenes.

L8 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:534383 CAPLUS
DN 119:134383
TI Multifunctional surface protein of **streptococci** and its characterization
IN Fischetti, Vincent A.; Pancholi, Vijaykumar
PA Rockefeller University, USA
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9314198 | A1 | 19930722 | WO 1993-US82 | 19930107 <-- |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | AU 9334351 | A1 | 19930803 | AU 1993-34351 | 19930107 <-- |
| | AU 668908 | B2 | 19960523 | | |
| | JP 07502896 | T2 | 19950330 | JP 1993-512544 | 19930107 <-- |
| | EP 672123 | A1 | 19950920 | EP 1993-902960 | 19930107 <-- |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| PRAI | US 1992-818170 | | 19920108 | | |
| | US 1992-913732 | | 19920715 | | |
| | WO 1993-US82 | | 19930107 | | |

AB A **streptococcal surface dehydrogenase** (SDH) is isolated and characterized. The SDH is able to bind **streptococci** to fibronectin, lysozyme, and cycloskeletal proteins

and exhibits activities of **glyceraldehyde-3-phosphate dehydrogenase** and ADP-ribosyl transferase. Its N-terminal amino acid sequences are also disclosed. Th SDH can be used for preparation of **vaccine** to inhibit colonization of mucosal tissue by the **streptococci** having the SDH and for the treatment of the **streptococci**-associated diseases of mammals.

L8 ANSWER 23 OF 26 MEDLINE on STN DUPLICATE 7
AN 76166735 MEDLINE
DN PubMed ID: 131108
TI Purification of group C **streptococcal** extracellular **antigens** detected with naturally occurring human antibodies: isolation of streptokinase and two previously undescribed **antigens**.
AU Kiefer D; Halbert S P
SO Infection and immunity, **(1976 Feb)** 13 (2) 501-12.
Journal code: 0246127. ISSN: 0019-9567.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197607
ED Entered STN: 19900313
Last Updated on STN: 19900313
Entered Medline: 19760706
AB Twelve **antigens** were detected in crude group C **streptococcal** extracellular concentrates, using naturally occurring antibodies in normal human gamma globulin. These group C **streptococcal antigens** all appeared to be present in crude group A **streptococcal** extracellular concentrates, although the latter contained additional **antigens** reactive with the human antibodies. Systematic purification procedures were established for the isolation of the group C **streptococcal antigens** by a sequence of salting out, hydroxylapatite chromatography, Sephadex G-100 gel filtration, and isoelectric focusing. With such procedures, three of the group C **streptococcal antigens** were isolated in a relatively pure state. One of the purified antigens was identified as streptokinase on the basis of its fibrinolytic potency, its reaction of identity with two purified streptokinase fractions obtained from other sources, and its high titer in immunodiffusion assays. The most highly purified streptokinase fractions, derived from the 0.1 M sodium phosphate hydroxylapatite eluate, revealed a **plasmin**-inhibiting effect at high concentrations of streptokinase. This was not seen in the purified streptokinase of equivalent functional and immunological purity that was derived from the 0.2 M sodium phosphate hydroxylapatite peak. Two other **streptococcal antigens** were also isolated to a high degree during the course of the above study. These were designated antigens X and Y and were found to be unrelated immunologically to each other or to streptokinase. Their isoelectric points were 6.7 and 8.8, respectively, and both were present in group A **streptococcal** concentrates. Esterase activity was found to be widely distributed in almost all of the fractions obtained in the various purification steps, indicating a high degree of heterogeneity of the **streptococcal** enzyme. Histochemical staining techniques applied to the **immune** precipitates formed with human antibodies indicated that none of the **antigens** detected in crude group C and group A **streptococcal** concentrates possessed catalase, glucuronidase, glucosaminidase, acid or alkaline phosphatase, arylsulfatase, leucineaminopeptidase, or chymotrypsin enzymatic activities.

Plr or plasmin or Gapc or (surface or Glyceraldehyde-3-phosphate) (A) dehydrogenase or GAPDH

L11 ANSWER 1 OF 14 MEDLINE on STN DUPLICATE 1
AN 2001070588 MEDLINE
DN PubMed ID: 11095992
TI Analysis of expression of a cytosolic enzyme on the surface of **Streptococcus** pyogenes.
AU D'Costa S S; Romer T G; Boyle M D
CS Department of Microbiology and Immunology, Medical College of Ohio, Toledo, Ohio, USA.
NC AI43474 (NIAID)
SO Biochemical and biophysical research communications, **(2000 Nov 30)** 278 (3) 826-32.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200101
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010104
AB The normally cytosolic glycolytic enzyme, **glyceraldehyde-3-phosphate dehydrogenase**, (**GAPDH**) has been reported to be expressed on the surface of **Streptococcus** pyogenes, group A, where it can act as a **plasmin** binding protein (**Plr**), and potentially a signaling molecule. In studies of wild-type and isogenic mutants, an association between surface expression of antigenic **GAPDH/Plr** and M and M-related fibrinogen-binding proteins was identified. Inactivation of the mga gene, whose product controls expression of M and M-related proteins also influenced expression of surface **GAPDH/Plr**. Revertants or pseudorevertants of mga mutants led to concomitant re-expression of surface **GAPDH/Plr** and M and M-related proteins. Using surface enhanced laser desorption ionization (SELDI) mass spectroscopy, a physical association between **GAPDH/Plr** and **streptococcal** fibrinogen-binding proteins was demonstrated. These studies support the hypothesis that surface M and M-related proteins are involved in anchoring **GAPDH/Plr** on the surface of group A **streptococci**.


L11 ANSWER 2 OF 14 MEDLINE on STN DUPLICATE 2
AN 1998386493 MEDLINE
DN PubMed ID: 9720024
TI Site-directed mutagenesis of **streptococcal plasmin** receptor protein (**Plr**) identifies the C-terminal Lys334 as essential for **plasmin** binding, but mutation of the **plr** gene does not reduce **plasmin** binding to group A **streptococci**.
AU Winram S B; Lottenberg R
CS Department of Medicine, University of Florida College of Medicine, Gainesville 32610-0277, USA.
NC HL-41898 (NHLBI)
SO Microbiology (Reading, England), **(1998 Aug)** 144 ( Pt 8) 2025-35.
Journal code: 9430468. ISSN: 1350-0872.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals

EM 199811
ED Entered STN: 19990106
Last Updated on STN: 19990106
Entered Medline: 19981113
AB **Plasmin**(ogen) binding is a common property of many pathogenic bacteria including group A **streptococci**. Previous analysis of a putative **plasmin** receptor protein, **Plr**, from the group A **streptococcal** strain 64/14 revealed that it is a **glyceraldehyde-3-phosphate dehydrogenase** and that the **plr** gene is present on the chromosome as a single copy. This study continues the functional characterization of **Plr** as a **plasmin** receptor. Attempts at insertional inactivation of the **plr** gene suggested that this single-copy gene may be essential for cell viability. Therefore, an alternative strategy was applied to manipulate this gene in vivo. Site-directed mutagenesis of **Plr** revealed that a C-terminal lysyl residue is required for wild-type levels of **plasmin** binding. Mutated **Plr** proteins expressed in Escherichia coli demonstrated reduced **plasmin**-binding activity yet retained **glyceraldehyde-3-phosphate dehydrogenase** activity. A novel integration vector was constructed to precisely replace the wild-type copy of the **plr** gene with these mutations. Isogenic **streptococcal** strains expressing altered **Plr** bound equivalent amounts of **plasmin** as wild-type **streptococci**. These data suggest that **Plr** does not function as a unique **plasmin** receptor, and underscore the need to identify other **plasmin** -binding structures on group A **streptococci** and to assess the importance of the plasminogen system in pathogenesis by inactivation of plasminogen activators and the use of appropriate animal models.

L11 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:199597 CAPLUS
DN 124:226035
TI Characterization of **glyceraldehyde-3-phosphate dehydrogenase** from group A **streptococci** and analysis of its role as a **plasmin** receptor
AU Winram, Scott Budd
CS Univ. of Florida, Gainesville, FL, USA
SO (**1996**) 181 pp. Avail.: Univ. Microfilms Int., Order No. DA9607464
From: Diss. Abstr. Int., B 1996, 56(11), 5927
DT Dissertation
LA English
AB Unavailable

L11 ANSWER 6 OF 14 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN DUPLICATE 5
AN 96276477 EMBASE
DN 1996276477
TI Monoclonal antibodies that recognize a common pneumococcal protein with similarities to **streptococcal** group A surface **glyceraldehyde-3-phosphate dehydrogenase**.
AU Kolberg J.; Sletten K.
CS Department of Vaccinology, National Institute of Public Health, P.O. Box 4404,Torshov, N-0403 Oslo, Norway
SO Infection and Immunity, (1996) 64/9 (3544-3547).
ISSN: 0019-9567 CODEN: INFIBR
CY United States

DT Journal; Article
FS 004 Microbiology
026 Immunology, Serology and Transplantation
LA English
SL English
AB Monoclonal antibodies (MAbs) against clinical isolates of **Streptococcus** pneumoniae were produced in a search for common pneumococcal proteins. One of the fusions generated two MAbs, 174,B-8 (immunoglobulin G2a) and 177,D-8 (immunoglobulin G1), which by Western blotting (immunoblotting) stained with a main hand of 40 kDa found in all isolates of S. pneumoniae examined. Cross- reactivity studies with **streptococci** other than pneumococci revealed very weak or moderate reactions with the MAbs. The 40-kDa protein was isolated by immunoaffinity chromatography and subsequent preparative Western blotting. N- terminal amino acid sequencing showed 90% amino acid sequence homology with a surface-located **glyceraldehyde-3-phosphate dehydrogenase** from **Streptococcus** pyogenes. This protein has also been reported to exhibit binding to mammalian proteins such as fibronectin, which may serve as host receptors. The epitopes for MAbs 174,B-8 and 177,D-8 reacting with the pneumococcal analog were not accessible to antibody binding in live bacteria but were exposed after heat killing. The MAbs showed negligible cross-reactions with S. pyogenes.

L11 ANSWER 7 OF 14 MEDLINE on STN DUPLICATE 6
AN 96349136 MEDLINE
DN PubMed ID: 8760943
TI The **plasmin**-binding protein **Plr** of group A **streptococci** is identified as **glyceraldehyde-3-phosphate dehydrogenase**.
AU Winram S B; Lottenberg R
CS Department of Medicine, University of Florida, Gainesville 32610, USA.
NC HL-41898 (NHLBI)
SO Microbiology (Reading, England), **(1996 Aug)** 142 ( Pt 8) 2311-20.
Journal code: 9430468. ISSN: 1350-0872.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199609
ED Entered STN: 19961015
Last Updated on STN: 19990129
Entered Medline: 19960930
AB Group A **streptococci** bind the serine protease **plasmin** with high affinity. Previously, a 41 kDa protein was identified as a candidate **plasmin** receptor protein (**Plr**) from group A **streptococcal** strain 64/14. The **plr** gene encoding **Plr** was cloned and the deduced amino acid sequence of **Plr** had significant similarity to **glyceraldehyde-3-phosphate dehydrogenases** (**GAPDHs**). In this study we have isolated cytoplasmic **GAPDH** of **streptococcal** strain 64/14. This enzyme was examined, on both structural and functional levels, for its relatedness to the **Plr** of strain 64/14 purified from mutanolysin extract and to recombinant **Plr**. We report here that no differences were detected between **streptococcal Plr** and cytoplasmic **GAPDH** on the basis of antibody reactivity, **plasmin**-binding activity, **GAPDH** activity, N-terminal amino acid sequence, peptide map analysis by V8 protease digestion and amino acid composition analysis. Furthermore, the **plr** gene appears to be present as a single copy in group A **streptococci**.

L11 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:304862 CAPLUS
DN 125:3825
TI Mutational analysis of a **plasmin** receptor protein expressed by group A **streptococci**
AU Winram, S.B.; Richardson, L.C.; Lottenberg, R.
CS College of Medicine, University of Florida, Gainesville, FL, USA
SO Developments in Biological Standardization (**1995**), 85(Genetics of Streptococci, Enterococci and Lactococci), 199-202
CODEN: DVBSA3; ISSN: 0301-5149
PB Karger
DT Journal
LA English
AB DNA hybridization studies indicated that gene **plr** expressing a candidate **plasmin** receptor, which also appears to be a functional **glyceraldehyde-3-phosphate dehydrogenase** (**GAPDH**), occurs as a single copy in group A **streptococci**. Mutagenesis of gene **plr** was performed to identify domains required for **plasmin** binding and to determine whether these are distinct from domains required for **GAPDH** activity.

L11 ANSWER 11 OF 14 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1993:357148 BIOSIS
DN PREV199345040573
TI **Glyceraldehyde-3-phosphate dehydrogenase** on the surface of group A **streptococci** is also an ADP-ribosylating enzyme.
AU Pancholi, Vijaykumar; Fischetti, Vincent A.
CS Rockefeller Univ., New York, NY 10021, USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1993) Vol. 93, No. 0, pp. 60.
Meeting Info.: 93rd General Meeting of the American Society for Microbiology. Atlanta, Georgia, USA. May 16-20, 1993.
ISSN: 1060-2011.
DT Conference; (Meeting)
LA English
ED Entered STN: 31 Jul 1993
Last Updated on STN: 31 Jul 1993

L11 ANSWER 12 OF 14 MEDLINE on STN DUPLICATE 9
AN 92364544 MEDLINE
DN PubMed ID: 1500854
TI A major surface protein on group A **streptococci** is a **glyceraldehyde-3-phosphate-dehydrogenase** with multiple binding activity.
AU Pancholi V; Fischetti V A
CS Laboratory of Bacterial Pathogenesis and Immunology, Rockefeller University, New York, New York 10021.
NC AI-11822 (NIAID)
SO Journal of experimental medicine, **(1992 Aug 1)** 176 (2) 415-26.
Journal code: 2985109R. ISSN: 0022-1007.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199209
ED Entered STN: 19920925
Last Updated on STN: 19990129

Entered Medline: 19920916

AB The surface of **streptococci** presents an array of different proteins, each designed to perform a specific function. In an attempt to understand the early events in group A **streptococci** infection, we have identified and purified a major surface protein from group A type 6 **streptococci** that has both an enzymatic activity and a binding capacity for a variety of proteins. Mass spectrometric analysis of the purified molecule revealed a monomer of 35.8 kD. Molecular sieve chromatography and sodium dodecyl sulfate (SDS)-gel electrophoresis suggest that the native conformation of the protein is likely to be a tetramer of 156 kD. NH2-terminal amino acid sequence analysis revealed 83% homology in the first 18 residues and about 56% in the first 39 residues with **glyceraldehyde-3-phosphate dehydrogenase** (**GAPDH**) of eukaryotic or bacterial origin. This **streptococcal** surface **GAPDH** (SDH) exhibits a dose-dependent dehydrogenase activity on glyceraldehyde-3-phosphate in the presence of beta-nicotinamide adenine dinucleotide both in its pure form and on the **streptococcal** surface. Its sensitivity to trypsin on whole organism and its inability to be removed with 2 M NaCl or 2% SDS support its surface location and tight attachment to the **streptococcal** cell. Affinity-purified antibodies to SDH detected the presence of this protein on the surface of all M serotypes of group A **streptococcal** tested. Purified SDH was found to bind to fibronectin, lysozyme, as well as the cytoskeletal proteins myosin and actin. The binding activity to myosin was found to be localized to the globular heavy meromyosin domain. SDH did not bind to **streptococcal** M protein, tropomyosin, or the coiled-coil domain of myosin. The multiple binding capacity of the SDH in conjunction with its **GAPDH** activity may play a role in the colonization, internalization, and the subsequent proliferation of group A **streptococci**.

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TI Origins of the mycoplasmas: Sterol-nonrequiring mycoplasmas evolved from **streptococci**.

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SO Journal of Bacteriology, (1982) 150/3 (1259-1265).
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LA English

AB The authors report the establishment of a phylogenetic relationship between the sterol-nonrequiring mycoplasmas (Acholeplasma species) and **streptococci**. Three specific antisera prepared against purified **Streptococcus** faecalis fructose diphosphate aldolase and **glyceraldehyde-3-phosphate dehydrogenase** and Pediococcus cerevisiae **glyceraldehyde-3-phosphate dehydrogenase** were used for comparative enzyme immunological studies; the Ouchterlony double-diffusion technique and the quantitative microcomplement fixation procedure were employed. The reactions obtained provide evidence showing that all seven Acholeplasma species studied (A. laidlawii, A. granularum, A. modicum, A. oculi, A. axanthum, A. hippikon, and A. equifetale) are phylogenetically related to **streptococci** and that they evolved from **streptococci**. The data strongly suggest that the acholeplasmas

comprise a distinct evolutionary group that has diverged from **streptococci** belonging to Lancefield group D or N. No reactions were observed between these enzyme antisera and cell extracts from six fermentative Mycoplasma species. These results support the view that mycoplasmas are derived from various bacteria.